



Place-Based Learning to Advance Connections, Education, and Stewardship (PLACES) boosts engagement of students in data-rich and place-based Earth science learning by supporting middle and high school educators. Our goal is to increase “data fluency” — the ability and confidence to make sense of and use data. This means knowing when, how, and why to use data for a specific purpose, such as solving problems and communicating ideas grounded in evidence.

The world is awash in data and new data are generated at an impressive rate. Yet today’s K–12 students rarely have access to data-rich learning opportunities that build their data skills and habits of mind. The PLACES project equips educators to help youth confidently use data to answer questions and solve problems, build their STEM identities, and effectively engage in civic life.

In particular, PLACES aims to broaden participation of youth who bring a diversity of cultures, languages, and meanings of “place” to their understanding of science, including students who are underrepresented in STEM, such as Indigenous youth and recent immigrants.

Project Approach

PLACES is a member of the NASA Science Activation (SciAct) community. This provides a unique and important opportunity to integrate NASA assets, such as data sets, images, classroom lessons, and the expertise of personnel into effective professional learning. By supporting classroom-based and out-of-school-time educators, our goal is to increase opportunities for middle school and high school students to use data and data tools in their science learning.

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We also support a “place-based” approach — meaning authentic engagement with local phenomena and physical landscapes, connections to cultures and communities with which learners identify, and guidance from mentor experts, such as elders and scientists.

Project Components

The project draws on:

- **A needs assessment** to understand what support educators require in order to integrate data and other resources, such as NASA assets into place-based science learning.
- **Professional learning** that stems from two successful models — Making Sense of SCIENCE and Power of Data.
- **Partnerships** that promote an exchange of knowledge and resources, leverage the broader NASA SciAct community, and involve state and national networks, such as the Council of State Science Supervisors and the U.S. GLOBE Office.



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